

capacity of the fuel cell, or when the steam compressor type freezer comes to a halt”.

The invention, after the above subject matters are deleted, is not described in original specification or defined in original claims. Such an invention cannot be concluded directly and unambiguously from original disclosure of the specification and the claims, either. Therefore, the amendment to claim 1 goes beyond the original disclosure of the specification and the claims, contrary to the provision in Chinese Patent Act, Article 33.

2. Applicant combined the subject matters of original claim 10 and original independent claim 2 in order to obtain the invention according to amended independent claim 8. In doing so, however, applicant deleted the subject matters as quoted above. The invention, after the above subject matters are deleted, is not described in original specification or defined in original claims. Such an invention cannot be concluded directly and unambiguously from original disclosure of the specification and the claims, either. Therefore, the amendment to claim 8 goes beyond the original disclosure of the specification and the claims, contrary to the provision in Chinese Patent Act, Article 33.

3. Applicant combined the subject matters of original claim 13 and original independent claim 2 in order to obtain the invention according to amended independent claim 12. In doing so, however, applicant deleted the subject matters as quoted above. The invention, after the above subject

matters are deleted, is not described in original specification or defined in original claims. Such an invention cannot be concluded directly and unambiguously from original disclosure of the specification and the claims, either. Therefore, the amendment to claim 12 goes beyond the original
5 disclosure of the specification and the claims, contrary to the provision in Chinese Patent Act, Article 33.

(II)

10 Even if applicant should add the deleted subject matters as quoted above to claim 12, each of the inventions according to claims 12-16 amended as such would not involve an inventive step as required in Chinese Patent Act, Article 22, Section 3.

15 1. Claim 12 is directed to a freezer system with a power thereof generated by and supplied from a fuel cell. Reference Cited 1 discloses a fuel cell system (see abstract and paragraphs 4 through to 42 in the specification as well as Fig. 4) comprising a load 4, a fuel cell 1 and an AC/AC converter 6 (which corresponds to a power converting device in the subject
20 invention), wherein the fuel cell system receives a power outputted from the fuel cell and supplies the power to the load 4 for driving the load 4. Therefore, the system in Reference Cited 1 is necessarily operable to convert an output from the fuel cell to a predetermined power and subsequently supply the power to the load. A power supply controlling device is operable

to supply the power generated by the fuel cell 1 to the load 4 for driving the load 4. When a total power demand of the load 4 does not exceed a power generating capacity of the fuel cell 1 (which corresponds to the situation in the subject invention “when a total power demand of the steam compressor type freezer does not exceed the power generating capacity of the fuel cell, or when the steam compressor type freezer comes to a halt”), the power supply controlling device is operable to activate a bidirectional, AC/DC converter 12, convert the remaining power (i.e. the power generated by the fuel cell) into an AC power, and transmit the AC power to an AC system 13 (which corresponds to a commercial power supply network in the subject invention). When the load 4 demands the power more than the power generation of the fuel cell 1, then the AC/DC converter 12 is operable to convert the AC power in the AC system 13 to a DC power and transmit the DC power to the load 4, as well as to a power supply device 3 disposed between the AC system 13 and the load 4. This means that the AC/DC converter 12 corresponds to “a power panel” which receives the power from the AC system 13 and supplies the power for driving the load 4.

Technically different features between the invention according to claim 12 and the invention in Reference Cited 1 are as under:-

- (1) In the subject invention, the load is a steam compressor type freezer, and the power for driving a compressor motor of the freezer is generated by and supplied from a fuel cell;
- (2) In the subject invention, the power generated by the fuel cell is supplied by means of the power panel to the commercial power supply

network;

(3) In the subject invention, the subject system is a freezer system with a power thereof generated by and supplied from the fuel cell; and

(4) The subject invention is operable to detect an amount of power
5 supplied from a commercial power supply network to an in-house power supply network housing a freezer system with a power thereof generated by the fuel cell. In response to the detected amount of power supply, a controller shared by the two power supply networks controls operation of the fuel cell.

10 In re technically different feature (1), a steam compressor type freezer is a sort of commonly used power load, and it is a common technique to the person in the pertinent art to supply the power from the fuel cell for driving a compressor motor of the steam compressor type freezer.

In re technically different feature (2), it is a common technique to the
15 person in the pertinent art to provide a power panel between the fuel cell 1 and the AC system 13 to supply the power generated by the fuel cell to the commercial power supply network.

In re technically different feature (3), when the load is a steam
compressor type freezer, the subject system based on such reasonably makes
20 a freezer system with a power thereof generated by and supplied from the fuel cell.

In re technically different feature (4), Reference Cited 3 (JP 2004-80987 A) discloses a fuel cell system, wherein the power is supplied from a fuel cell FC when a blackout occurs at a commercial AC power source

(see the specification, paragraph 0027 and Fig. 1 in Reference Cited 3).

This system necessarily includes a controller to control the above power supply operation. Therefore, Reference Cited 3 anticipates the technical feature that “wherein an amount of power supplied from a commercial power supply network to an in-house power supply network housing a freezer system with a power thereof generated by the fuel cell is detected; and wherein, in response to the detected amount of power supply, a controller controls operation of the fuel cell”. And, a function derived from the technical feature in Reference Cited 3 is the same as a function derived from the invention according to claim 12 – effecting an appropriate control on a power generation of a fuel cell. That is, Reference Cited 3 suggests a solution to the technical problem of the subject invention by applying the technically different feature (4) to Reference Cited 1. It would be obvious to the person in the pertinent art to provide a shared controller for controlling operation of the fuel cell in order to reduce an arrangement space and control operations of the two power supply networks simultaneously.

Thus, it would be obvious to the person in the pertinent art to arrive at the invention according to claim 12 based on References Cited 1 and 3 as well as technical common sense in the pertinent art combined all together. Therefore, the invention according to claim 12 lacks a substantial feature and its resulting prominent progress, and thus does not involve an inventive step as required in Chinese Patent Act, Article 22, Section 3.

2. Claim 13 depends from claim 12. It is a common technique to the

person in the pertinent art to share the same inverter by a power converting device between a commercial power supply network and a compressor motor, and a further power converting device between a fuel cell and the compressor motor in order to reduce an arrangement space and an installation cost.

5 Thus, if the invention according to preceding claim 12 does not involve an inventive step, the invention according to claim 13 does not involve an inventive step as required in Chinese Patent Act, Article 22, Section 3, either.

10 3. Claim 14 depends from claim 13. Reference Cited 1 (see Fig. 4) anticipates using a bidirectional AC/DC converter acting as an AC/DC converter to be connected to the AC system 13. Thus, if the invention according to preceding claim 13 does not involve an inventive step, the invention according to claim 14 does not involve an inventive step as
15 required in Chinese Patent Act, Article 22, Section 3, either.

4. Claim 15 depends from claim 13. It is a common technique to the person in the pertinent art to employ a plurality of steam compressor type freezer compressors to increase the cooling effect. Also, it is a common
20 technique to the person in the pertinent art to connect a motor for driving some of the compressors directly to a commercial power supply network. Thus, if the invention according to preceding claim 13 does not involve an inventive step, the invention according to claim 15 does not involve an inventive step as required in Chinese Patent Act, Article 22, Section 3,

either.

5. Claim 16 depends from claim 12. Reference Cited 2 (JP 2002-198079 A) discloses a sort of fuel cell system (see abstract and Fig. 1),
5 the system comprising charge storage devices 14, 15 for outputting an amount of a power charge and an amount of a fuel charge, respectively (each of the charge storage devices 14, 15 corresponds to a charge output device in the subject invention), and a controlling device 11 operable, in response to these amounts of the charges, to control operation of a fuel cell and
10 distribution of an outputted power (the controlling device 11 corresponds to a controlling device in the subject invention). Therefore, the additional technical feature of this claim is anticipated by Reference Cited 2. And, a function derived from the technical feature in Reference Cited 2 is the same as a function derived from the invention according to claim 16 – providing a
15 costumer with a convenience. That is, Reference Cited 2 suggests providing a costumer with a convenience by applying this additional technical feature to the subject invention. Thus, if the invention according to preceding claim 12 does not involve an inventive step, the invention according to claim 16 does not involve an inventive step as required in Chinese Patent Act, Article
20 22, Section 3, either.

(III)

Claim 1 after the amendment features “a power output controlling

device operable to detect an amount of power supply from a commercially power supply network to an in-house power supply network freezer system with a power thereof generated by the fuel cell and operable, in response to the detected amount of power supply, to control a power output from a
5 freezer system with a power thereof generated by and supplied from the fuel cell". Based on disclosure in References Cited 1 and 3, however, this technical feature is a specific technical feature already contributed to an existing and conventional technique. Since claim 8 after the amendment does not include any specific technical features identical to and/or common
10 with the specific technical feature above, the invention according to amended claim 1 and the invention according to amended claim 8 do not contain a single and generic inventive concept entirely. Thus, the two inventions do not comply with the requirement of unity of invention.

15 The above defects in the subject application are subject to rejectable and refusable reasons provided in Chinese Patent Act Implementing Rule, Article 53. If applicant leaves the above defects in the document as they stand, or if the document after amendment and/or submission of argument is still rejectable under the provision in Chinese Patent Act Implementing Rule,
20 Article 53, then the subject application would be refused.

When applicant submits the amended document, applicant should submit a reference page or reference pages of the amendment, too, with explicitly marking applicant's amended portion(s) thereon. Also, applicant

should secure consistency of amendment content(s) between the reference page(s) and replacement page(s). The amendment should not go beyond the original disclosure of the specification and the claims, to comply with the provision in Chinese Patent Act, Article 33.

5



中华人民共和国国家知识产权局

200233 上海桂平路 435 号 上海专利商标事务所有限公司 沈昭坤	发文日
申请号: 2005800105820	
申请人: 大金工业株式会社	
发明名称: 燃料电池发电制冷系统	



第 2 次审查意见通知书

1. ☒ 审查员已收到申请人于 2008 年 6 月 25 日提交的意见陈述书, 在此基础上审查员对上述专利申请继续进行实质审查。

☐ 根据国家知识产权局专利复审委员会于 年 月 日作出的复审决定, 审查员对上述专利申请继续实质审查。

☐

2. ☐ 申请人于 年 月 日提交的修改文件, 不符合专利法实施细则第 51 条第 3 款的规定。

3. 继续审查是针对下述申请文件进行的:

☐ 上述意见陈述书中所附的经修改的申请文件。

☒ 前次审查意见通知书所针对的申请文件以及上述意见陈述书中所附的经修改的申请文件替换页。

☐ 前次审查意见通知书所针对的申请文件。

☐ 上述复审决定所确定的申请文件。

☐

4. ☐ 本通知书未引用新的对比文件。

☒ 本通知书引用下述对比文件(其编号续前, 并在今后的审查过程中继续沿用):

编号	文件号或名称	公开日期(或抵触申请的申请日)
3	JP 特开 2004-80987A	2004-3-11

5. 审查的结论性意见:

☐ 关于说明书:

☐ 申请的内容属于专利法第 5 条规定的不授予专利权的范围。

☐ 说明书不符合专利法第 26 条第 3 款的规定。

☐ 说明书的修改不符合专利法第 33 条的规定。

☐ 说明书的撰写不符合专利法实施细则第 18 条的规定。

☐

☒ 关于权利要求书:

☐ 权利要求 不具备专利法第 22 条第 2 款规定的新颖性。

☐ 权利要求 不具备专利法第 22 条第 3 款规定的创造性。

☐ 权利要求 不具备专利法第 22 条第 4 款规定的实用性。

☐ 权利要求 属于专利法第 25 条规定的不授予专利权的范围。

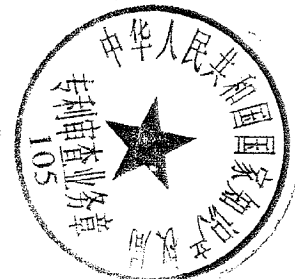
☐ 权利要求 不符合专利法第 26 条第 4 款的规定。

☐ 权利要求 不符合专利法第 31 条第 1 款的规定。

☒ 权利要求 1, 8, 12 的修改不符合专利法第 33 条的规定。

☐ 权利要求 不符合专利法实施细则第 2 条第 1 款的规定。

☐ 权利要求 不符合专利法实施细则第 13 条第 1 款的规定。



21303
2006. 7



回函请寄: 100088 北京市海淀区蓟门桥西土城路 6 号 国家知识产权局专利局受理处收
(注: 凡寄给审查员个人的信函不具有法律效力)

- ☐ 权利要求 _____ 不符合专利法实施细则第 20 条的规定。
☐ 权利要求 _____ 不符合专利法实施细则第 21 条的规定。
☐ 权利要求 _____ 不符合专利法实施细则第 22 条的规定。
☐ 权利要求 _____ 不符合专利法实施细则第 23 条的规定。

☐

- ☐ 分案的申请不符合专利法实施细则第 43 条第 1 款的规定。

上述结论性意见的具体分析见本通知书的正文部分。

6. 基于上述结论性意见, 审查员认为:

- ☐ 申请人应按照通知书正文部分提出的要求, 对申请文件进行修改。
☒ 申请人应在意见陈述书中论述其专利申请可以被授予专利权的理由, 并对通知书正文部分中指出的不符合规定之处进行修改, 否则将不能授予专利权。
☐ 专利申请中没有可以被授予专利权的实质性内容, 如果申请人没有陈述理由或者陈述理由不充分, 其中请将被驳回。

☐

7. 申请人应注意下述事项:

- (1) 根据专利法第 37 条的规定, 申请人应在收到本通知书之日起的贰个月内陈述意见, 如果申请人无正当理由逾期不答复, 其申请将被视为撤回。
(2) 申请人对其申请的修改应符合专利法第 33 条和实施细则第 51 条的规定, 修改文本应一式两份, 其格式应符合审查指南的有关规定。
(3) 申请人的意见陈述书和/或修改文本应邮寄或递交国家知识产权局专利局受理处, 凡未邮寄或递交给受理处的文件不具备法律效力。
(4) 未经预约, 申请人和/或代理人不得前来国家知识产权局专利局与审查员举行会晤。

8. 本通知书正文部分共有 3 页, 并附有下列附件:

- ☒ 引用的对比文件的复印件共 1 份 19 页。

☐

审查员: 熊跃 (991C)

2008 年 7 月 28 日



审查部门 审查协作中心

21303
2006. 7



回函请寄: 100088 北京市海淀区蓟门桥西土城路 6 号 国家知识产权局专利局受理处收
(注: 凡寄给审查员个人的信函不具有法律效力)

第 2 次审查意见通知书正文

申请号：2005800105820

审查员已收到申请人提交的针对第一次审查意见通知书的意见陈述书和经修改的权利要求书，对本申请继续审查，意见如下：

权利要求1，8，12的修改不符合专利法第33条的规定。

1. 独立权利要求1的技术方案是在原权利要求8引用原独立权利要求2的技术方案的基础上删除技术特征“供电控制单元，该供电控制单元利用燃料电池发电的功率，供应蒸气压缩式制冷机的压缩机驱动用电动机的驱动用功率，同时在蒸气压缩式制冷机所需的总功率低于燃料电池的发电能力时，以及在制冷机停止工作时，通过动力盘对市电系统侧供给燃料电池发电的功率”而得到的。删除了该技术特征的技术方案在原说明书和权利要求书中既没有文字记载，也不能由原说明书和权利要求书所记载的内容直接地、毫无疑义地确定得出。因此，权利要求1的修改超出原说明书和权利要求书记载的范围，不符合专利法第33条的规定。

2. 独立权利要求8的技术方案是在原权利要求10引用原独立权利要求2的技术方案的基础上删除上述同样的技术特征后得到的。删除了该技术特征的技术方案在原说明书和权利要求书中既没有文字记载，也不能由原说明书和权利要求书所记载的内容直接地、毫无疑义地确定得出。因此，权利要求8的修改超出原说明书和权利要求书记载的范围，不符合专利法第33条的规定。

3. 独立权利要求12的技术方案是在原权利要求13引用原独立权利要求2的技术方案的基础上删除上述同样的技术特征后得到的。删除了该技术特征的技术方案在原说明书和权利要求书中既没有文字记载，也不能由原说明书和权利要求书所记载的内容直接地、毫无疑义地确定得出。因此，权利要求12的修改超出原说明书和权利要求书记载的范围，不符合专利法第33条的规定。

假如申请人将上述删除的技术特征加入权利要求12中，修改后的权利要求12-16仍然不具备专利法第22条第3款规定的创造性。

1. 权利要求12请求保护一种燃料电池发电制冷系统。对比文件1（参见说明书摘要、说明书第40-42段、图4）公开了一种燃料电池系统，其包含：负载4；燃料电池1；直流-直流变换器6（相当于功率变换单元），它将燃料电池的输出作为输入对负载4供给工作用功率，因此必然要将燃料电池的输出进行规定的功率变换后才能对负载供给电力；供电控制单元，其利用燃料电池1的发电供应负载4工作，当4的用电量小于1的发电量时（相当于负载所需总功率低于燃料电池的发电能力和负载停止工作），启动直流-交流双向变换器12，将剩余电力（即燃料电池发电的功率）转变为交流电并输送给交流系统13（相当于市电系统）；而当4的用电量大于1的发电量时，12将13

的交流电力变为直流，并输送给4，13和4之间的电力供给装置3即相当于将13的电力作为输入对负载4供给工作用功率的动力盘。权利要求2与对比文件1的区别技术特征在于：（1）负载为蒸气压缩式制冷机，且利用燃料电池发电的功率供应制冷机的压缩机驱动用电动机；（2）通过动力盘对市电系统侧供给燃料电池发电的功率；（3）该系统为燃料电池发电制冷系统；（4）对燃料电池的运转控制是通过探测市电系统侧对含有燃料电池发电制冷系统的建筑物内系统的供电量，并对探测到的供电量作出响应，利用共同设置的控制器来进行的。

对于区别技术特征（1），蒸气压缩式制冷机是一种常用的电力负载，而为了使蒸气压缩式制冷机工作，利用燃料电池给蒸气压缩式制冷机的压缩机驱动用电动机供电是本领域技术人员的常用技术手段。

对于区别技术特征（2），在1和13之间设置动力盘，并通过动力盘对市电系统侧供给燃料电池发电的功率也是本领域技术人员的常用技术手段。

对于区别技术特征（3），在负载为蒸气压缩式制冷机的基础上，该系统即成为燃料电池发电制冷系统。

对于区别技术特征（4），对比文件3（JP特开2004-80987A 参见说明书第0027段，图1）公开了一种燃料电池系统，其中，当商用交流电源停电时（相当于探测市电系统侧的供电量为0时），由燃料电池FC补充电力（相当于对探测到的供电量作出响应后对燃料电池进行运转控制）；该系统中必然有一个控制上述动作的控制器。由此可见，区别技术特征“对燃料电池的运转控制是通过探测市电系统侧对含有燃料电池发电制冷系统的建筑物内系统的供电量，并对探测到的供电量作出响应，利用控制器来进行的”已被对比文件3公开，且其在对比文件3中所起的作用与在权利要求12中所起的作用相同，都是为了能适当地进行燃料电池的发电控制。也就是说对比文件3给出了将上述区别技术特征应用于对比文件1以解决其技术问题的启示。而为了减小设置空间、集中进行运转控制，利用共同设置的控制器来进行燃料电池的运转控制是本领域技术人员很自然能想到的。

因此，在对比文件1和3的基础上结合本领域的常用技术手段得到权利要求12所要求保护的技术方案对本领域技术人员来说是显而易见的，因此权利要求12不具备突出的实质性特点，即不具备专利法第22条第3款规定的创造性。

2. 权利要求13是权利要求12的从属权利要求。为了减小设置空间和施工费用，使市电系统与压缩机驱动用电动机之间的功率变换单元和燃料电池与压缩机驱动用电动机之间的功率变换单元共用同一逆变器是本领域技术人员的常用技术手段。因此，当其引用的权利要求12不具备创造性时，权利要求13也不具备专利法第22条第3款规定的创造性。

3. 权利要求14是权利要求13的从属权利要求。对比文件1（参见图4）已经公开了

与13之间连接的交流-直流变化器采用的是双向交流-直流变换器。因此，当其引用的权利要求13不具备创造性时，权利要求14也不具备专利法第22条第3款规定的创造性。

4. 权利要求15是权利要求13的从属权利要求。为了增加制冷效果，采用多个蒸气压缩式制冷机用压缩机是本领域技术人员的常用技术手段；而将驱动部分压缩机用的电动机直接连接在市电系统侧也是本领域技术人员的常用技术手段。因此，当其引用的权利要求13不具备创造性时，权利要求15也不具备专利法第22条第3款规定的创造性。

5. 权利要求16是权利要求12的从属权利要求。对比文件2(JP特开2002-198079A)公开了一种燃料电池系统(参见说明书摘要、图1)，其包括输出电费和燃料费用的费用记忆部14、15(即费用输出单元)，以及对该费用作出响应并控制燃料电池的运转和输出功率分配的控制部11(即控制单元)，该费用记忆部14-15和控制部11的组成相当于控制器的一部分。可见该权利要求的附加技术特征已被对比文件2公开，且其在对比文件2中所起的作用与在权利要求14中所起的作用相同，都能方便客户。故对比文件2给出了将该附加技术特征应用于本发明中从而方便客户的启示。因此，当其引用的权利要求12不具备创造性时，权利要求16也不具备专利法第22条第3款规定的创造性。

申请人还应注意：在对比文件1和3公开的上述内容基础上，修改后的权利要求1中的“功率输出控制单元，该功率输出控制单元探测市电系统侧对含有燃料电池发电制冷系统的建筑物内系统的供电量，并对探测到的供电量作出响应，进行燃料电池发电制冷系统的功率输出控制”为其对现有技术作出贡献的特定技术特征，而修改后的权利要求8中并不含有与此相同或相应的特定技术特征，因此，修改后的权利要求1与权利要求8不属于一个总的发明构思，它们之间没有单一性。

本申请的上述缺陷属于专利法实施细则第五十三条所规定的驳回情形。如果申请人继续坚持存在上述缺陷的文本，或经修改和/或意见陈述后的文本仍属于专利法实施细则第五十三条所规定的驳回情形，本申请将被驳回。

申请人应按照本通知书提出的审查意见对申请文件进行修改，克服所存在的缺陷并应在本通知书指定的答复期限内提交新修改的权利要求书和修改对照页。申请人应当确保上述两部分在内容上的一致性。对申请文件的修改应当符合专利法第三十三条的规定，不得超出原说明书和权利要求书记载的范围。

如有疑问可与审查员联系010-62414382/xiongyue@sipo.gov.cn

审查员：熊跃

代码：991C